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OPHIDION AND *ZOOTROPHION*, TWO NEW GENERA IN THE PLEUROTHALLIDINAE (ORCHIDACEAE)

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As presently conceived, the genus *Cryptophoranthus* Barb. Rodr. contains several diverse groups of allied species. Two of these groups, not closely related to *Cryptophoranthus* as typified by *C. fenestratus* (Barb. Rodr.) Barb. Rodr., meet criteria for the establishment of separate genera. In all these groups, as well as in some other pleruothallids treated elsewhere, the apex of the dorsal sepal is either connate to or remains in contact with the apices of the lateral sepals in varying degrees, characters which apparently have evolved independently in each.

Ophidion Luer, gen. nov.

Plantae parvae vel mediocres, caules secundarii abbreviati elongative plus minusve laxe vaginati, racemus flaccidus debilis floribus successivis, apex sepali dorsalis ad apicem synsepali adnatus fenestras latas laterales formans, petala breves, labellum trilobatum supra basim concavum, basis labelli ad basim columnae late connata, columna gracilis apicem versus alata cucullata anthera ventricali polliniis duobus.

TYPE: *Cryptophoranthus cymbula* Luer

Etymology: From the Greek *ophidion* (*οθιδιον*), "a little snake," in allusion to the appearance of the flowers.

The four known species of this Andean genus are small to medium in size, epiphytic, and caespitose. The secondary stems, more or less enclosed by loose, imbricating sheaths, are abbreviated or they may be as long as the leaf they bear. The inflorescence is a weak, loose, successively few-flowered raceme originating from a node below the abscission layer. The dorsal sepal is nearly free at the base, but adnate to the synsepal toward the apex to form lateral windows for access to the interior of the flower. The apex of the dorsal sepal can be separated with relative ease without damaging either it or the synsepal. The petals are short. The lip is three-lobed, the lateral lobes rounded and erect on the lower third. The thick margin of the broad, concave base is firmly connate to the pedestal-like base of the column. The column is slender and arcuate, and winged toward the cucullate apex. The anther with the two pollinia, the rostellum, and the stigma are located on the ventral surface.

Just as adnation or connation of the apices of the sepals *per se* cannot be regarded as an infallible generic criterion, neither can connation of the base of the lip to the base or foot of the column be so regarded, (e.g., *Crocodeilanthe* Rchb. f.). Together with the morphology of the sepals and elements of the column, however, this feature may be validly considered.

Ophidion cunabulum (Luer & Escobar) Luer, comb. nov.

Cryptophoranthus cunabulum Luer & Escobar, Orquideologia 14:114, 1981.

DISTRIBUTION: Colombia.

ILLUSTRATION: Orquideologia 14: 115, 1981.

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Ophidion cymbula (Luer) Luer, comb. nov.
Cryptophoranthus cymbula Luer, Phytologia 46: 346, 1980.
DISTRIBUTION: Ecuador.
ILLUSTRATION: Icones Plantarum Tropicarum Pl. 036, 1981.

Ophidion dasyglossum (Luer & Escobar) Luer, comb. nov.
Cryptophoranthus dasyglossus Luer & Escobar, Orquideologia 14: 116, 1981.
DISTRIBUTION: Colombia.
ILLUSTRATION: Orquideologia 14: 117, 1981.

Ophidion pleurothallopsis (Krzl.) Luer, comb. nov.
Cryptophoranthus pleurothallopsis Krzl., Kew Bull. 115, 1925.
Cryptophoranthus auriculatus Garay, Orquideologia 5: 16, 1970.
DISTRIBUTION: Panama, Colombia, Ecuador and Venezuela.
ILLUSTRATION: Venez. Orchids Ill. 6: 101, 1976; Figure 14, p. 81.

Zootrophion Luer, gen. nov.

Plantae parvae mediocres vel grandes, caules secundarii abbreviati elongative plus minusve laxe vaginati, racemi pauciflori plerumque abbreviati floribus successivis, sepalum dorsale basin versus et apicem versus ad synsepalum valde connatum fenestras laterales formans, petala breves, labellum trilobatum supra basim callosum basi membranacea ad pedem columnae cardinatum, columna semiteres anthera apicali polliniis duobus.

TYPE: *Specklinia atropurpurea* Lindl.

Etymology: From the Greek *zootrophion* (ζωοτροφειον), "a menagerie," in allusion to the similarity of the flowers to the heads of various animals. Pronounced zo-o-troph´ion.

The species of this Central American and Andean genus vary in size from small to large. They are epiphytic and caespitose. The secondary stems, more or less concealed by loose, imbricating sheaths, may be very short or longer than the leaf they bear. The racemose inflorescence, usually much abbreviated, is successively flowered and originates from a node below the abscission layer. The dorsal sepal is connate basally and apically to form lateral windows for access to the interior of the flower. The sepals cannot be separated without cutting through united tissue. The petals are short. The lip is three-lobed, callous-thickened above the base, and the marginal lateral lobes are near the middle. The membranous margin of the base is thinly hinged to the column-foot. The column is semiterete, longitudinally winged with the anther apical and not hooded. There are two pollinia, the stigma is ventral, and the foot is short but well-developed.

Zootrophion atropurpureum (Lindl.) Luer, comb. nov.
Specklinia atropurpurea Lindl., Edward's Bot. Reg. 21: sub t. 1797, 1836.
Pleurothallis atropurpurea (Lindl.) Lindl., Edward's Bot. Reg. 28: Misc. 81, 1842.
Masdevallia fenestrata Lindl. ex Hook., Bot. Mag. t. 4164, 1845.
Cryptophoranthus atropurpureus (Lindl.) Rolfe, Gard. Chron. 2: 693, 1887.
Cryptophoranthus alvaroi Garay, Orquideologia 5: 15, 1970.

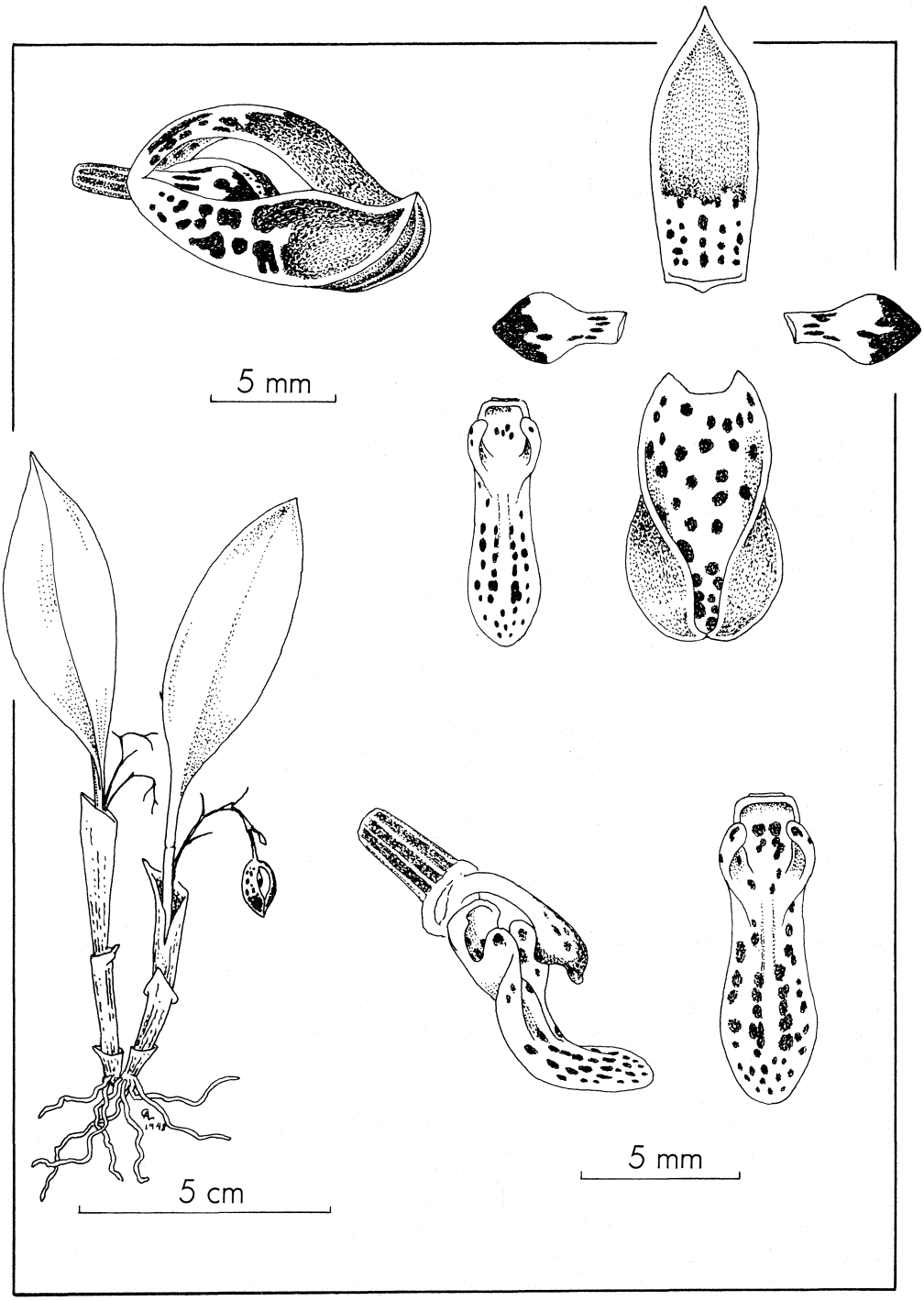

Figure 14. OPHIDION PLEUROTHALLOPSIS (Krzl.) Luer

This species is variable in size and color of the flowers.
DISTRIBUTION: Jamaica, Panama, Colombia, Ecuador, Peru (?), and Bolivia.
ILLUSTRATION: Bot. Mag. t. 4164, 1845; Icones Plantarum Tropicarum Pl. 035, 1981.

Zootrophion dayanum (Rchb. f.) Luer, comb. nov.
Masdevallia dayana Rchb. f., Gard. Chron. 2: 295, 1880.
Cryptophoranthus dayanus (Rchb. f.) Rolfe, Gard. Chron. 2: 693, 1887.
Cryptophoranthus beloglottis Schltr., Repert. Spec. Nov. Regni Veg. Beih. 8: 50, 1921.
Cryptophoranthus argus Rchb. f. ex Krzl., Repert. Spec. Nov. Regni Veg. 17: 437, 1921.
Cryptophoranthus lehmannii Rolfe, Orchid Rev. 11: 303, 1903; Kew Bull. 26, 1922.
Cryptophoranthus hologlottis Schltr. fide Krzl., Repert. Spec. Nov. Regni Veg. Beih. 34: 225, 1925, sphalma.
This species is variable in size and color of the flowers.
DISTRIBUTION: Colombia, Venezuela, Ecuador and Peru.
ILLUSTRATION: Gard. Chron. 26: 428, 1886; Venez. Orch. Ill. 6: 99, 1976.

Zootrophion dodsonii (Luer) Luer, comb. nov.
Cryptophoranthus dodsonii Luer, Selbyana 5: 145, 1979.
DISTRIBUTION: Colombia and Ecuador.
ILLUSTRATION: Icones Plantarum Tropicarum Pl. 037, 1981.

Zootrophion endresianum (Krzl.) Luer, comb. nov.
Cryptophoranthus endresianus Krzl., Repert. Spec. Nov. Regni Veg. 17: 437, 1921.
DISTRIBUTION: Nicaragua, Costa Rica, Panama, Colombia and Ecuador.
ILLUSTRATION: Icones Plantarum Tropicarum 038, 1981.

Zootrophion gracilentum (Rchb. f.) Luer, comb. nov.
Masdevallia gracilenta Rchb. f., Gard. Chron. 2: 98, 1875.
Cryptophoranthus gracilentus (Rchb. f.) Rolfe, Gard. Chron. 2: 693, 1887.
DISTRIBUTION: Costa Rica and Ecuador.

Zootrophion griffin Luer, sp. nov. Figure 15

Planta mediocris dense caespitosa, foliis suborbicularibus caulibus subaequilongis, racemo abbreviato paucifloro, floribus atropurpureis valde asperatis, aperturis lateralibus parvis, labello sagittato, lobis lateralibus rotundatis erectis, base unguiculata cum callo erecto denticulato.

Plant medium in size, epiphytic, densely caespitose; roots slender, densely fasciculate. Secondary stems stout, 3-5 cm long, enclosed by a series of 3-4 loose, imbricating sheaths. Leaf erect, coriaceous, green, often suffused with purple, broadly elliptical to suborbicular, the blade 3-4 cm long, 2-4 cm wide, the rounded apex minutely apiculate, the rounded base abruptly contracted into a petiole 5-9 mm long. Inflorescence an abbreviated raceme of 2-3 successive or simultaneous flowers borne by a peduncle ca. 5 mm long, from a node near the apex of the secondary stem below the abscission layer; floral bract loose, 4-5 mm long; pedicel 2-4 mm long; ovary 3-5 mm long, with erose crests; sepals dark purple, mostly from confluent spots, markedly asperous externally especially along the crested veins, glabrous internally, the dorsal sepal obovate-acute, 12-18 mm long, 5 mm wide, completely con-

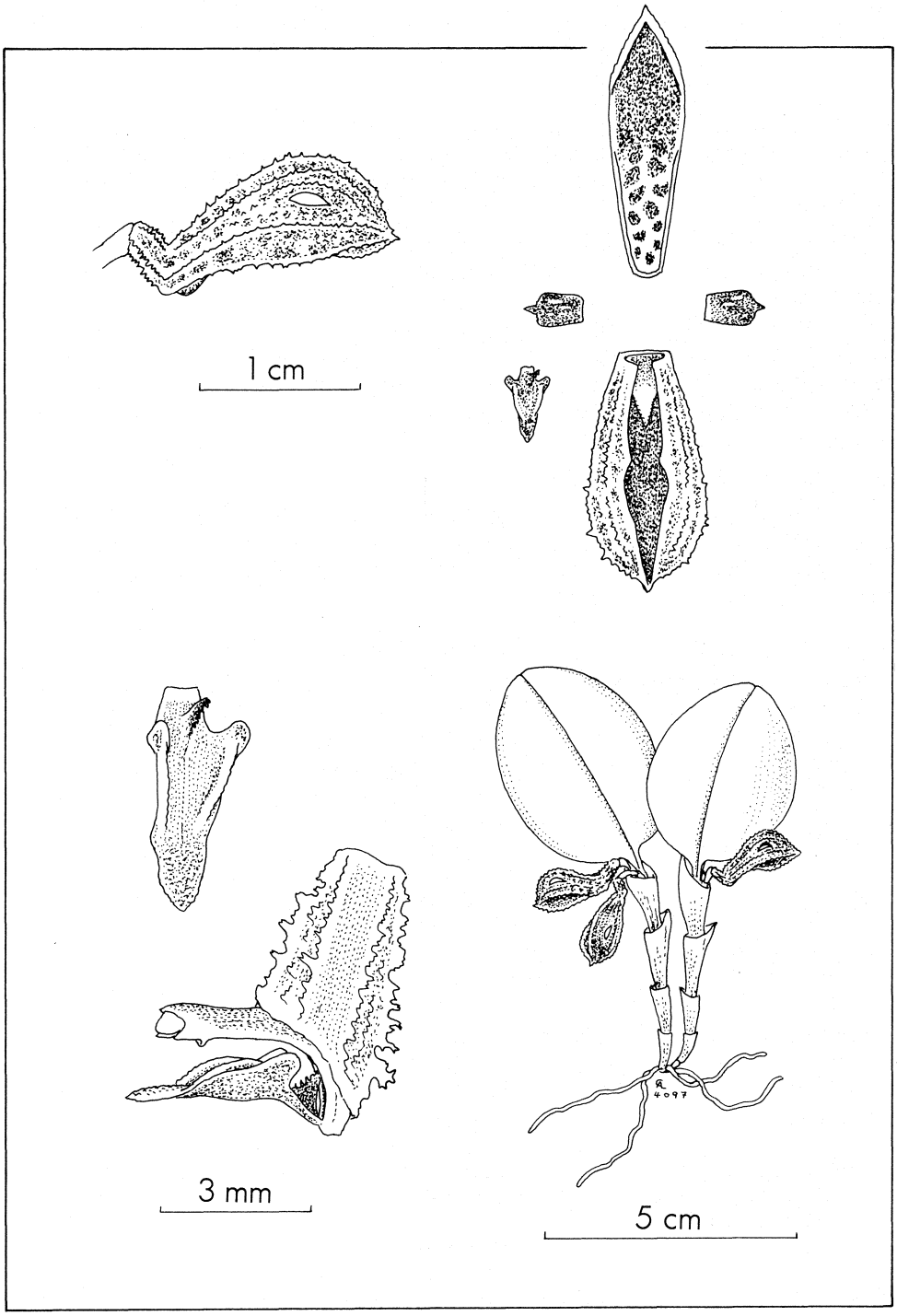

Figure 15. ZOOTROPHION GRIFFIN Luer

nate to the lateral sepals except for a 2-3 mm long aperture above the middle, the lateral sepals completely connate into a rigid, bicarinate, acute, boat-shaped synsepal, 12-16 mm long, 8 mm wide unspread, with a triangular cavity at the base to accommodate the lip; petals purple, oblong-subquadrate, 2.5-4 mm long, 2-2.25 mm wide, the truncate apex apiculate; lip dark red, sagittate, 2.5-4.5 mm long, 1.5-2 mm wide, the lateral lobes rounded, erect, the apex acute, verrucose, minutely denticulate, the base unguiculate with an erect, denticulate callus; column red, semiterete, 2 mm long, the foot stout, concave.

Etymology: Named for the similarity of the flower to the head of a monstrous bird, e.g., a griffin, a mythological monster with the head of an eagle and body of a lion.

TYPE: *ECUADOR:* NAPO: epiphytic in wet forest near Rio Jatunyacu west of Tena, alt. 600 m, 21 Feb. 1982, *C. Luer, A. Hirtz & J. Leon*, leaves purple, *6893* (HOLOTYPE: SEL), leaves green, *6911* (SEL); without exact locality, 1976, H. Ripley, s.n., cult. in San Francisco, Calif., flowered in cult. Aug. 1979, *C. Luer 4097* (SEL).

Distribution: Eastern Ecuador.

This species may be recognized by the round leaves and small to medium-sized, rigid, minutely but markedly spiny flowers with very small "windows." The lip is similar to that of *Z. dayanum*, including the erect, basal callus, but the lateral lobes are broadly rounded.

Zootrophion hypodiscus (Rchb. f.) Luer, comb. nov.
Masdevallia hypodiscus Rchb. f., Gard. Chron. 2: 234, 1878.
Cryptophoranthus hypodiscus (Rchb. f.) Rolfe, Gard. Chron 2: 693, 1887.
Cryptophoranthus rolfeanus Krzl., Kew Bull. 114, 1925.
Cryptophoranthus lepidotus L. O. Wms., Ann. Missouri Bot. Gard. 29: 340, 1942.
DISTRIBUTION: Panama, Colombia, and Ecuador.
ILLUSTRATION: Figure 16, p. 85, this issue.

Zootrophion moorei (Rolfe) Luer, comb. nov.
Cryptophoranthus moorei Rolfe, Orchid. Rev. 11: 304, 1903; Kew Bull. 30, 1906.
DISTRIBUTION: Nicaragua and Costa Rica.

Zootrophion oblongifolium (Rolfe) Luer, comb. nov.
Cryptophoranthus oblongifolius Rolfe, Kew Bull. 5, 1895.
DISTRIBUTION: Ecuador and Peru (?).
ILLUSTRATION: Figure 17, p. 86, this issue.

Zootrophion trivalve (Luer & Escobar) Luer, comb. nov.
Cryptophoranthus trivalvis Luer & Escobar, Orquideologia 14: 118, 1981.
DISTRIBUTION: Colombia.
ILLUSTRATION: Orquideologia 14: 119, 1981.

Zootrophion vulturiceps (Luer) Luer, comb. nov.
Cryptophoranthus vulturiceps Luer, Selbyana 5: 146, 1979.
DISTRIBUTION: Costa Rica.
ILLUSTRATION: Figure 18, p. 87, this issue.

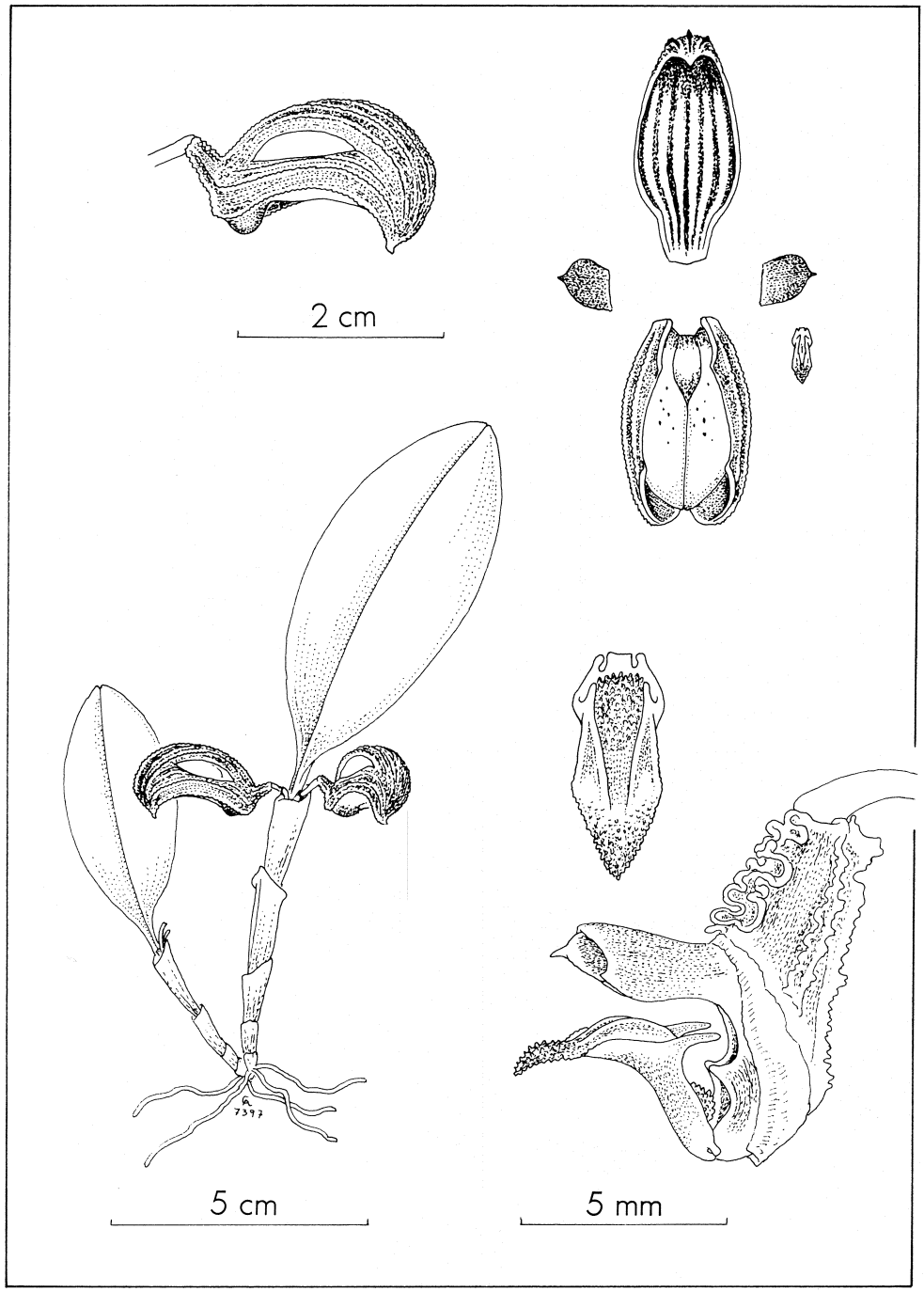

Figure 16. ZOOTROPHION HYPODISCUS (Rchb. f.) Luer

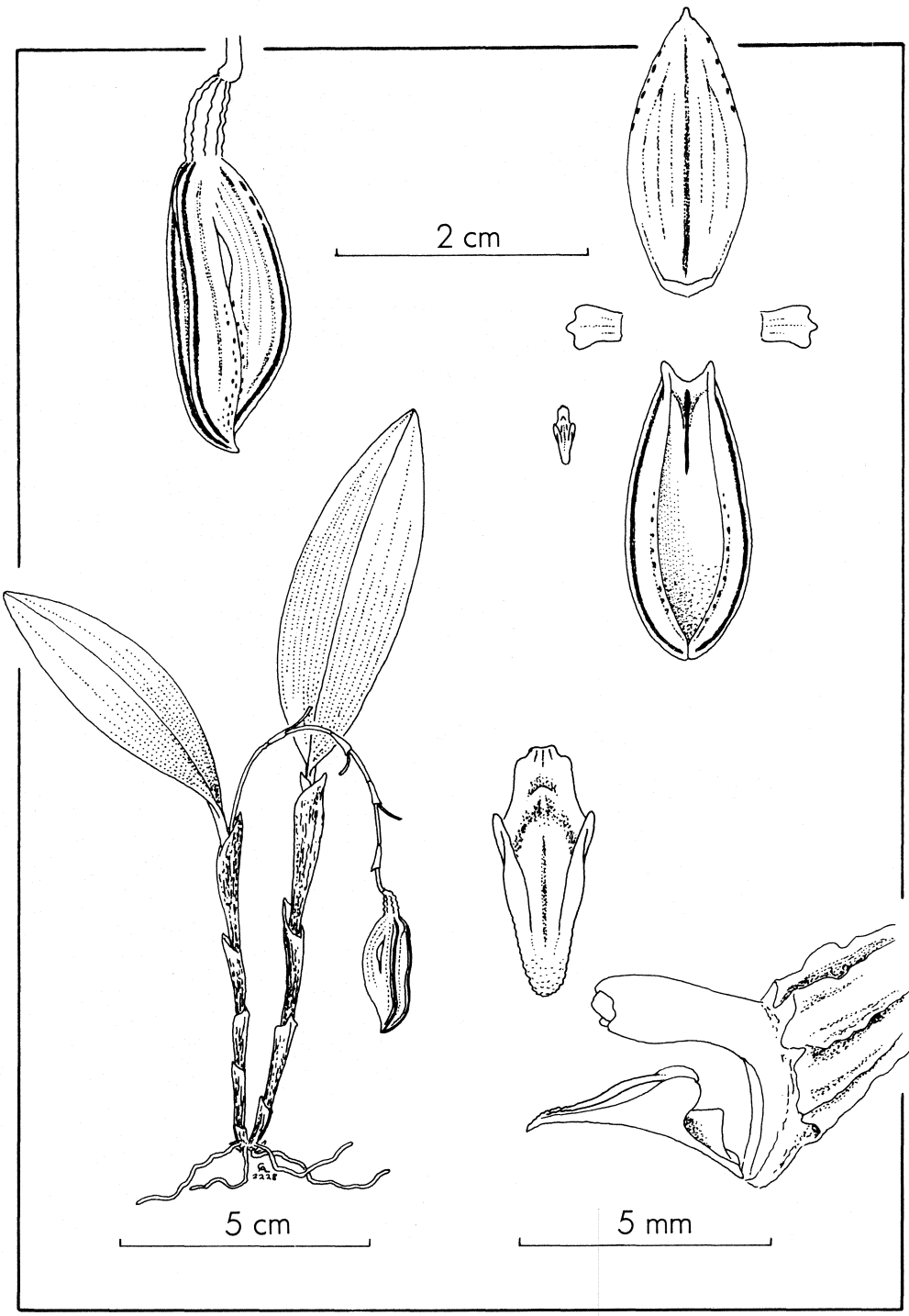

Figure 17. ZOOTROPHION OBLONGIFOLIUS (Rolfe) Luer

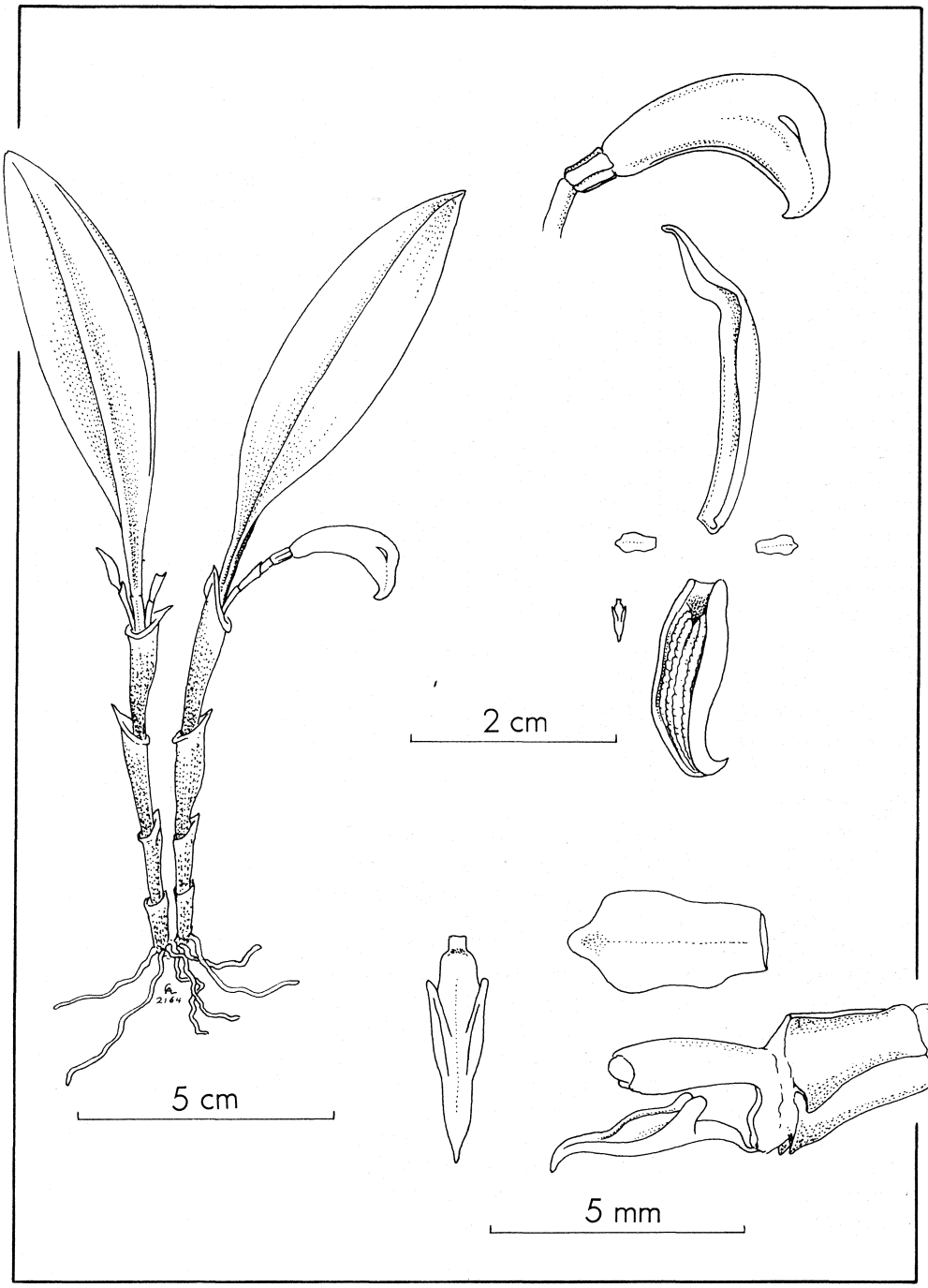

Figure 18. ZOOTROPHION VULTURICEPS (Luer) Luer